SILVER

Service Manual

SR8000L

4 BAND STEREO TUNER GRAPHIC EQUALIZER
MECHANICAL LOGIC CONTROL SYSTEM

SPECIFICATIONS

POWER SUPPLY
- Mains: AC 110–127V/220–240V (switchable), 50/60 Hz
- Batteries: DC 15V, "D"size or flashlight batteries x 10 UM-1(A)
- External DC Power: DC 12–15V

POWER CONSUMPTION 90W

POWER OUTPUT 48W total (maximum)

SPEAKERS
- Woofer: 160 mm, 4 ohm, dynamic 2 pcs.
- Tweeter: 50 mm, 2.5 ohm, dynamic 2 pcs.

DIMENSIONS 780(W)x282(H)x176(D) mm

WEIGHT 11.4 kg (with batteries)

RADIO SECTION
- Tuning Range:
  - FM: 87.5–108 MHz
  - MW: 525–1605 kHz
  - LW: 150–285 kHz
  - SW: 5.8–18 MHz
- Antenna System:
  - FM: 300 ohm balanced external antenna and telescopic antennas
  - MW/LW: High-gain ferrite bar antenna
  - SW: Telescopic antenna and external antenna
- FM Stereo Separation: 45 dB (at 1 kHz)

TAPE RECORDER SECTION
- Type: 4-track, 2-channel stereo or monaural
- Tape Speed: 4.75 cm/sec.
- Frequency Response: 40–13,000 Hz (normal) 40–14,000 Hz (CrO2) 40–15,000 Hz (metal)
- Wow and Flutter: 0.07% (RMS weighted)
- Rewind Time: 90 seconds approx. with C60 compact cassette tape
- Signal to Noise Ratio: 50 dB (normal Dolby NR out), 55 dB (normal, Dolby NR in) 55 dB (metal Dolby NR out), 60 dB (metal, Dolby NR in)

JACKS
- Ext. Mic. (right and left): 0.1 mV/1.5 k ohm
- Aux. Input: 100 mV/47 k ohm
- Tape Output: 580 mV/10 k ohm
- Headphons: 8 ohm

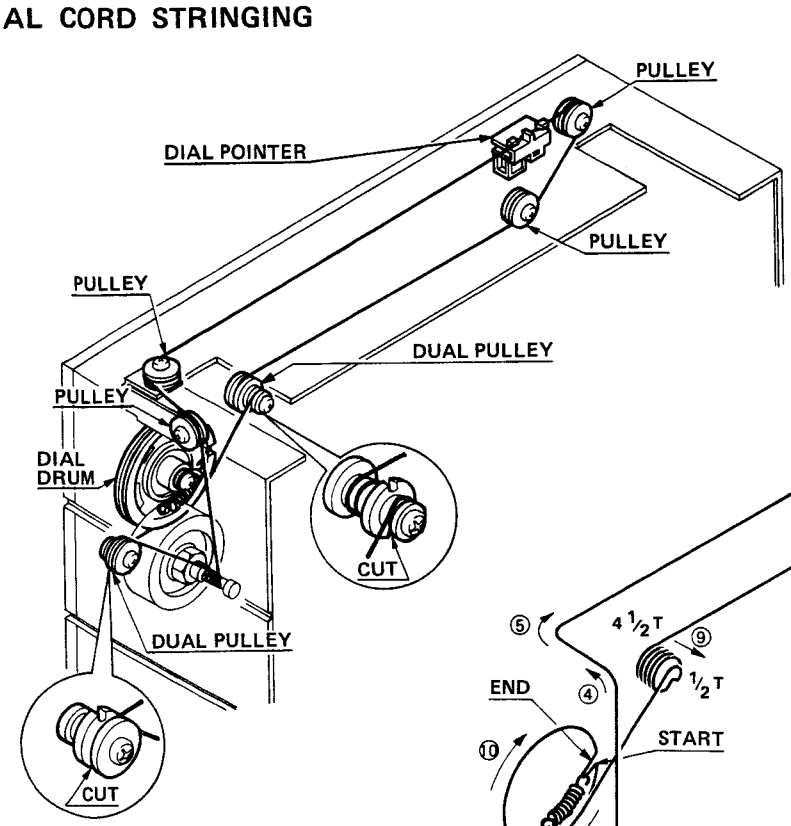
Specifications may be changed without notice.

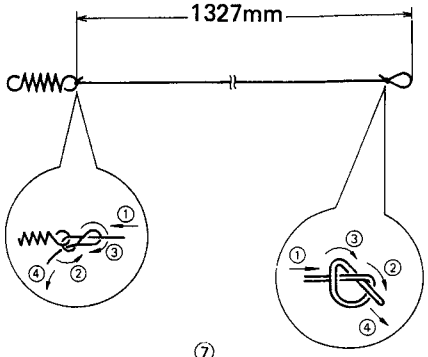
SHIN-SHIRASUNA ELECTRIC CORP., JAPAN

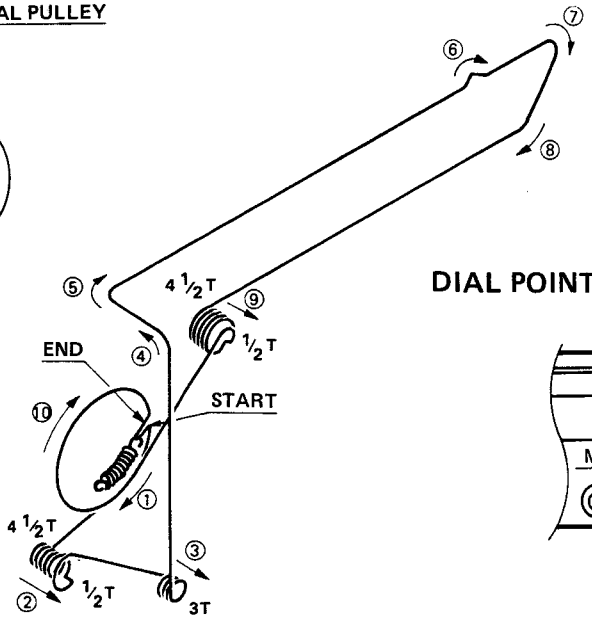
METHOD OF DISASSEMBLING

1. Open the battery compartment cover assembly and remove 5 self-tapping screws (A). Remove 1 screw (B) on the cabinet back assembly.
2. Disconnect 2 antenna connectors of main P.C. board and disconnect the 1 power supply lead connector.
3. Remove 8 self-tapping screws (C) mounting main P.C. board.
4. Remove 1 self-tapping screw (D) mounting power amp. P.C. board.
5. Remove 5 self-tapping screws (E) and lift up cassette tape recorder mechanical assembly after removing cassette compartment cover assembly.

DIAL CORD STRINGING

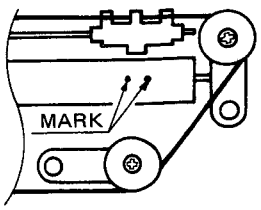




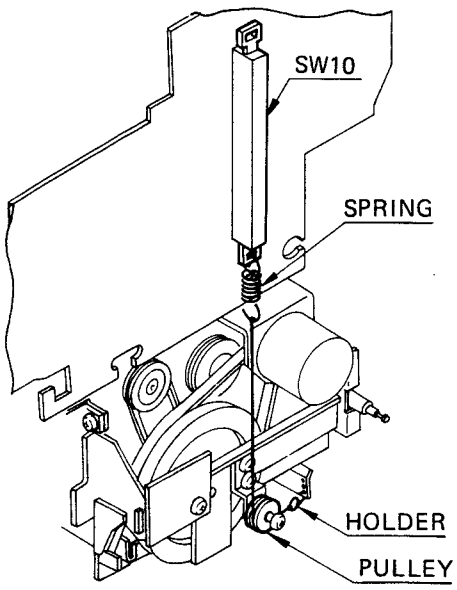


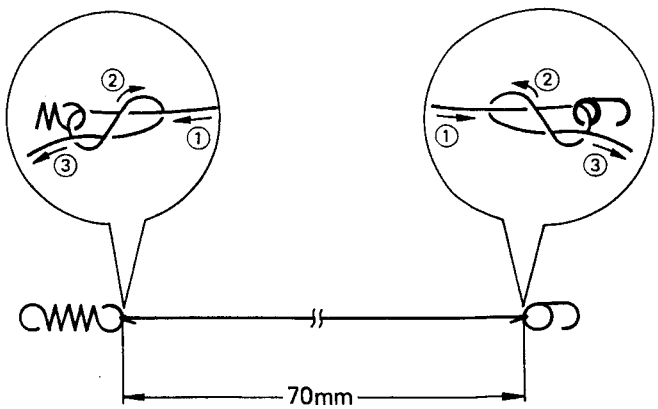
1. Turn Variable Capacitor in closed position.
2. Start stringing when position of dial drum corresponds to Variable Capacitor.

DIAL POINTER SETTING POINT

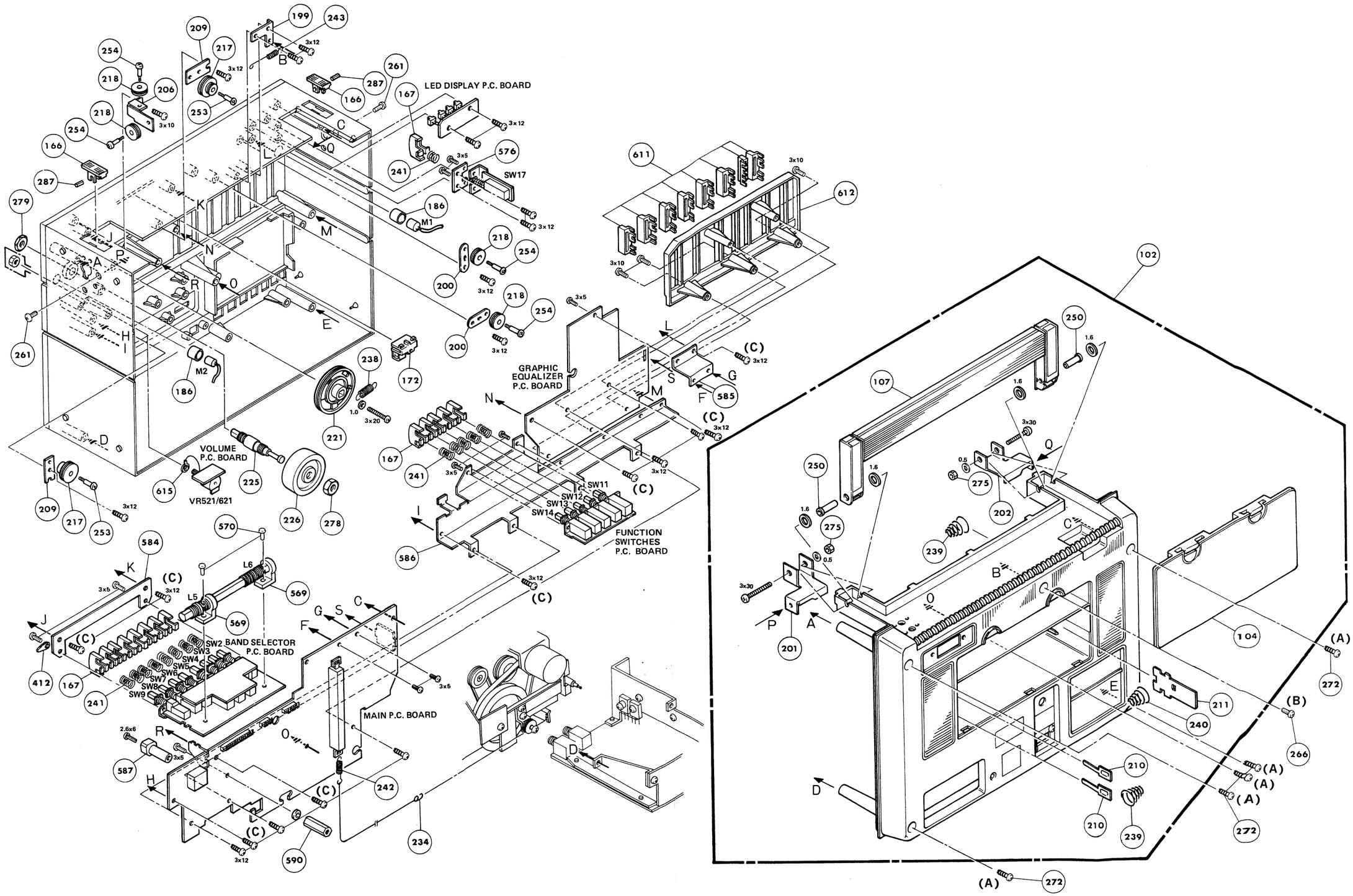


SWITCH CORD STRINGING



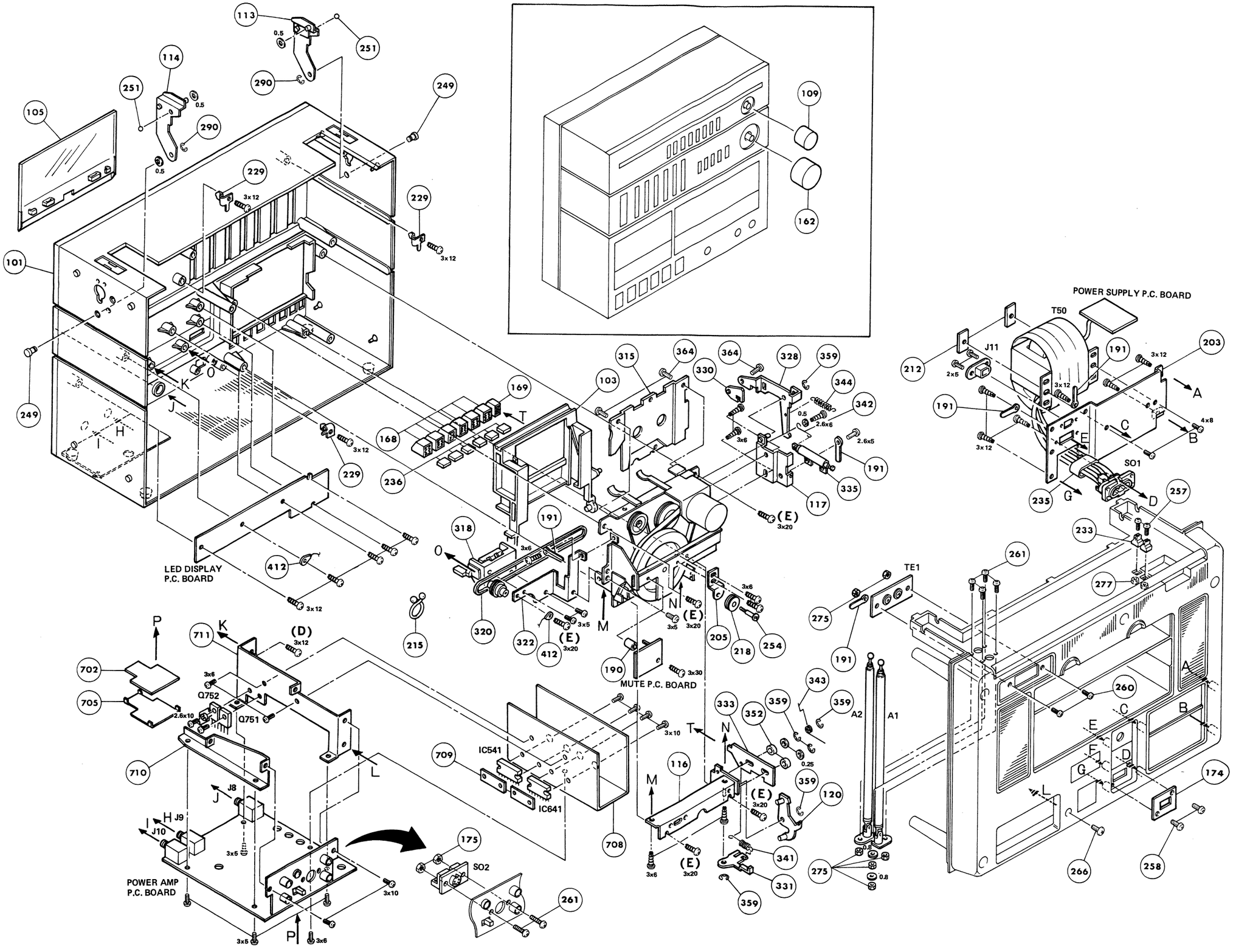


GENERAL UNIT EXPLODED VIEW



NOTE : The notation "3x6" means the screw diameter is 3 mm ; its length is 6 mm.
The notation "0.5" means the washer thickness is 0.5 mm.

GENERAL UNIT EXPLODED VIEW



GENERAL UNIT MECHANICAL PARTS LIST

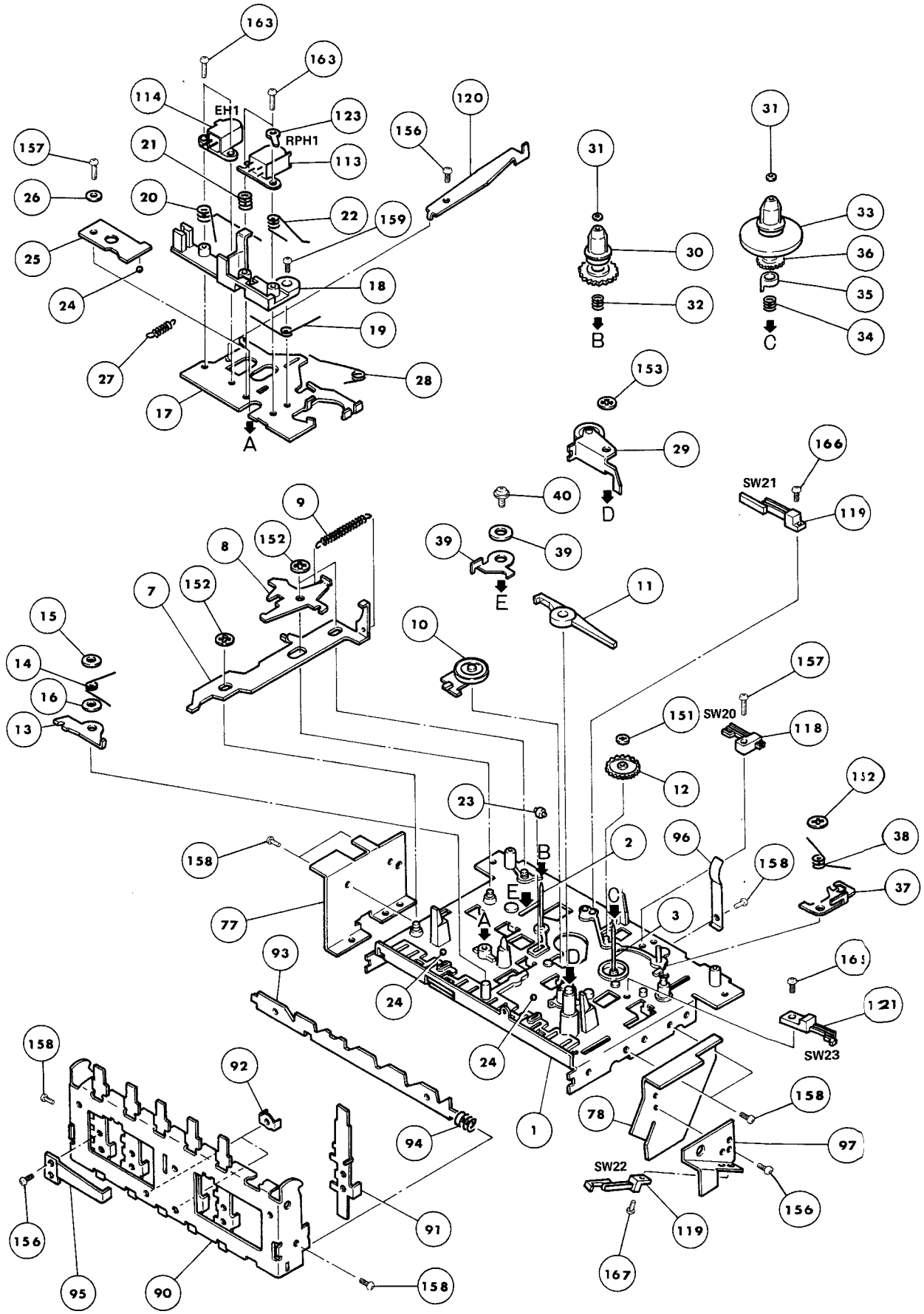
[MODEL SR8000L]

SER. NO.	REF. NO.	DESCRIPTION	PART NO.	ORDER Q'TY		
AA	101	Cabinet Front Assembly	A412-SR8000LA			
AB	102	Cabinet Back Assembly (Includes: Battery Compartment Cover Assembly and Handle Assembly)	A422-SR8000LA			
AC	103	Cassette Compartment Slot Assembly	A612-SR8000LA			
AH	104	Battery Compartment Cover Assembly	A432-SR8000LA			
AD	105	Cassette Compartment Cover Assembly	A532-SR8000LA			
AE	107	Handle Assembly	A622-SR8000LA			
AF	109	Knob Assembly, Tuning	A632-SR8000LA			
BA	113	Bracket Assembly, Speaker Box Lock(L)	B219-SR8000LA			
BB	114	Bracket Assembly, Speaker Box Lock(R)	B219-SR8000LB			
BD	116	Bracket Assembly	B219-SR8000LD			
BE	117	Bracket Assembly, Damper	B219-SR8000LE			
CA	120	Lever Assembly	B672-SR8000LA			
162	162	Knob, Volume	1632-05701VC			
166	166	Knob, Speaker Box Lock	1642-03101			
167	167	Push Button, Power, Tape, Aux., SW, MW, LW, FM, FM-Mode, Muting, Dolby NR, ALC/MLC, RIS, Metal, Tape	1662-07101			
168	168	Push Button, Rec., Rew., Play, f.fwd., Stop, Pause	1662-07301VC			
169	169	Push Button, Eject	1662-07401VC			
172	172	Dial Pointer	1672-01401			
174	174	Indication Plate, AC Voltage Selector	1722-01501			
186	186	Bushing, Mic.	2114-01222			
190	190	Spacer	2132-01404			
191	191	Holding Bracket	2218-7001			
199	199	Bracket	2219-1294			
200	200	Bracket, Pulley	2219-1295			
201	201	Bracket, Handle (R)	2219-1296			
202	202	Bracket, Handle (L)	2219-1297			
203	203	Bracket	2219-1298			
205	205	Bracket	2219-1307			
206	206	Bracket	2219-1321			
209	209	Bracket, Dual Pulley	2219-1168			
210	210	Bracket, Battery (+)	2219-619			
211	211	Bracket, Battery (+) (–)	2219-5450			
212	212	Bracket	2219-7091			
215	215	Holder, Lead Wire Clamp	2240-7052			
217	217	Dual Pulley	2612-1621			
218	218	Pulley	2612-52271			
221	221	Dial Drum	2611-0847			
225	225	Tuning Shaft	2602-060174			
226	226	Flywheel	2617-7003			
229	229	Leaf Spring	2652-00232			
233	233	Holder	2240-283			
234	234	Holder	2240-226			
235	235	Holder	2240-204			
236	236	Holder	2240-292			
238	238	Spring, Dial Drum	2651-110112			
239	239	Spring, Battery (–)	2651-22261			
240	240	Spring, Battery (–)	2651-220120			
241	241	Spring	2651-210192			
242	242	Spring	2651-110372			
243	243	Spring	2651-0000134			

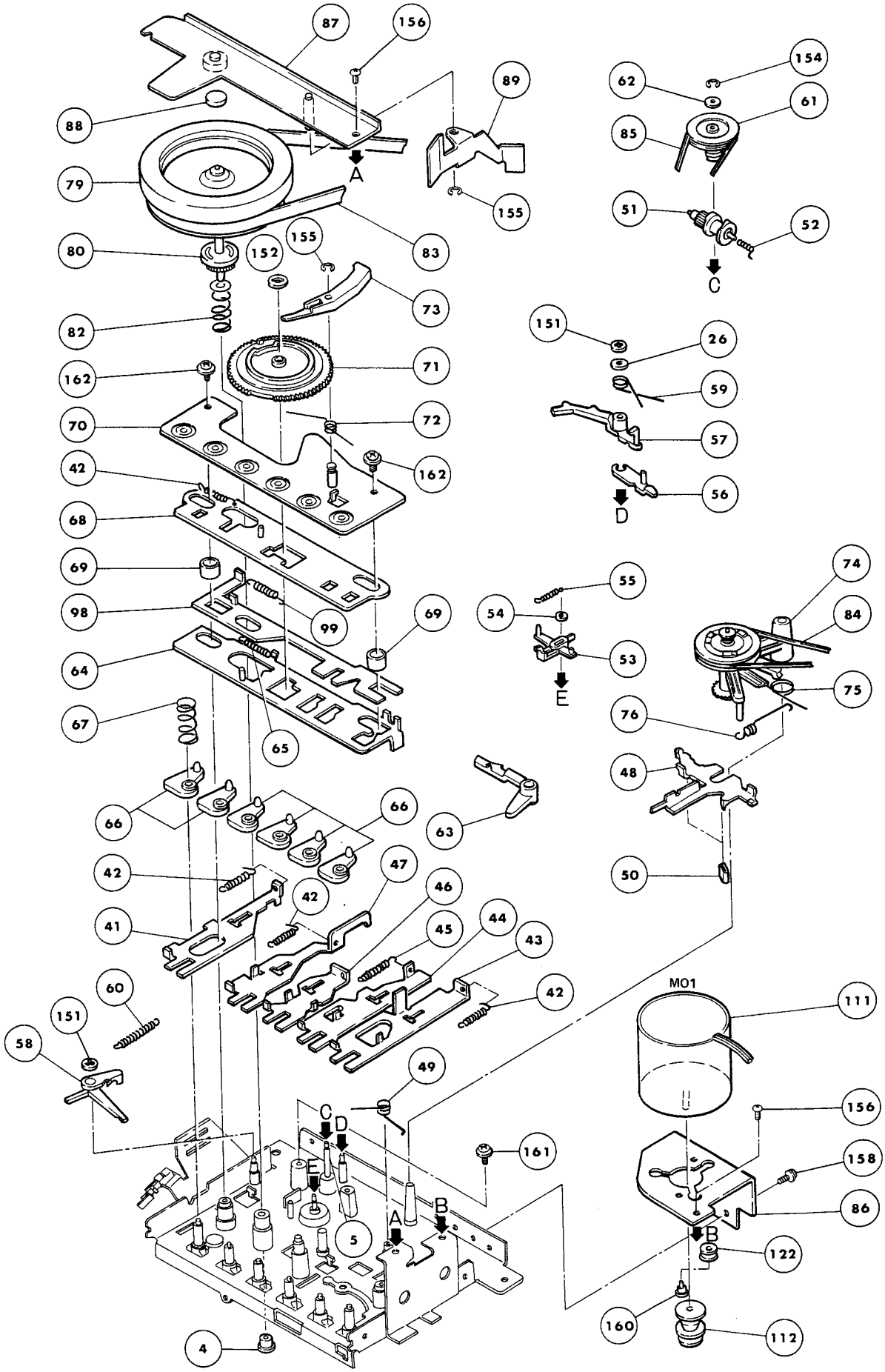
SER. NO.	REF. NO.	DESCRIPTION	PART NO.	ORDER Q'TY		
249	249	Shaft	2601-447			
250	250	Shaft, Handle	2601-451			
251	251	Steel Ball	2711-010811			
253	253	Special Screw, Dual Pulley	2320-12			
254	254	Special Screw, Pulley	2320-11			
257	257	Screw (2.6 x 8 mm)	2327-260849			
258	258	Screw (2 x 12 mm)	2387-201249			
260	260	Screw (3 x 10 mm)	2327-301049			
261	261	Screw (3 x 8 mm)	2327-300849			
266	266	Screw (3 x 12 mm)	2327-301249			
272	272	Self-Tapping Screw (3 x 25 mm)	2347-302521			
275	275	Hexagon Nut (M3)	2446-301Z9			
277	277	Hexagon Nut (M2.6)	2446-261Z9			
278	278	Special Hexagon Nut	2447-09227			
279	279	Special Hexagon Nut	2447-10227			
287	287	Spring Pin	2425-3008722			
290	290	E-Stop Ring (2.5 ϕ)	2461-25A			
315	315	Dressing Plate	1514-06101			
318	318	Tape Counter	3131-395001			
320	320	Belt	2642-01440			
322	322	Bracket, Tape Counter	2219-1279			
328	328	Lever	2672-115			
330	330	Lever	2672-117			
331	331	Lever	2672-118			
333	333	Slider	2674-52			
335	335	Damper	2692-3			
341	341	Spring	2651-11091			
342	342	Spring, Damper	2651-0000131			
343	343	Spring	2651-0000132			
344	344	Spring	2651-1103406			
352	352	Bushing	2363-501413			
359	359	E-Stop Ring (3.0 ϕ)	2461-30A			
364	364	Screw (2 x 3 mm)	2387-200349			
512	412	Lug	4211-4			
469	569	Holder, Ferrite Bar Antenna	2241-29			
470	570	Eyelet	2424-30601			
476	576	Bracket, Power Switch	2219-1292			
484	584	Bracket	2219-1291			
485	585	Bracket	2219-1293			
486	586	Bracket	2219-1300			
487	587	Holder	2240-279			
490	590	Boss	2362-901005			
211	611	Knob, Rec. Level, Equalizer, Balance	1642-03001VC			
212	612	Holder	2240-278			
215	615	Lug	4211-21			
202	702	Protector	2133-186			
205	705	Shield Plate	2216-284			
208	708	Heat Sink	2222-111			
209	709	Bracket	2219-1367			
210	710	Bracket	2219-1366			
211	711	Bracket	2219-1299			

NOTE: When spare parts are needed, type the quantity desired in the "ORDER Q'TY" column of the order form in this Service Manual and send copy.

CASSETTE TAPE RECORDER EXPLODED VIEW [3112-10501]



CASSETTE TAPE RECORDER EXPLODED VIEW [3112-10501]



CASSETTE TAPE RECORDER MECHANICAL PARTS LIST

[MODEL SR8000L]

REF. NO.	DESCRIPTION	PART NO.	ORDER Q'TY		
1	Chassis OS	PBB1077			
2	Reel Shaft	PBE13656			
3	Reel Shaft	PBE14455			
4	Metal	PBE14456			
5	Worm Shaft	PBE14453			
7	Rec. Inter Plate	PBD1590			
8	Stop Sub Plate	PBE14824			
9	T Spring	PBE6112			
10	Idler Assembly	PBE01412			
11	Pause Arm	PBE14427			
12	Idler Gear	PBE14337			
13	Protector	PBD1591			
14	Spring	PBE6054			
15	Washer	PGWP42X100025			
16	Washer	PGWF42A080030			
17	Head Base	PBD1594			
18	Head Stand	PBC1118			
19	Spring	PBE6050			
20	Spring	PBE6060			
21	C Spring	PBE13666			
22	Pinch Spring	PBE6046			
23	Guide Roller	PBE14457			
24	Steel Ball	PBE14460			
25	Spring Plate	PBE14437			
26	Washer	PGWF28A670050			
27	T Spring	PBE6098			
28	Spring	PBE6056			
29	Pinch Arm Assembly	PBE01415			
30	Supply Reel Spindle	PBE01054			
31	Washer	PGWM16X040020			
32	C Spring	PBE6003			
33	Take-Up Reel Spindle	PBE01129			
34	C Spring	PBE6009			
35	Clutch Plate	PBE13723			
36	Friction Plate	PBE14720			
37	Lock Plate	PBD1442			
38	Spring	PBE6055			
39	Brake Sub Plate	PBE14825			
40	Washer	PGWM45X080010			
41	Pause Plate	PBE14422			
42	T Spring	PBE13662			
43	Rec. Plate	PBE14424			
44	Rew. Plate	PBE14426			
45	T Spring	PBE6057			
46	Play Plate	PBE14423			
47	F.F. Plate	PBE14425			
48	Brake Plate	PBD1596			
49	Brake Spring	PBE6047			
50	Brake Cushion	PBE14180			
51	AS Cam Assembly	PBE01410			
52	C Spring	PBE6097			
53	Senser	PBD1450			
54	Washer	PBE14117			
55	T Spring	PBE14045			
56	Senser arm A	PBE14705			
57	Senser arm B	PBE14706			
58	Senser arm C	PBE14707			
59	Spring	PBE6092			
60	T Spring	PBE6111			
61	Worm	PBD1598			
62	Washer	PGWM26X060020			
63	Stop Lever	PBE14438			
64	Lock Plate Assembly	PBE01434			
65	T Spring	PBE6095			
66	Select Arm	PBE14441			
67	C Spring	PBE6048			

REF. NO.	DESCRIPTION	PART NO.	ORDER Q'TY		
68	Slide Plate Assembly	PBE01414			
69	Collar	PBE14751			
70	Holder Plate Assembly	PBE01416			
71	Assist Gear	PBD1601			
72	Spring	PBE6053			
73	Start Lever	PBE14439			
74	Tension Assembly	PBE01419			
75	Spring	PBE6049			
76	T Spring	PBE6093			
77	Slide Plate	PBE14428			
78	Slide Plate B	PBE14429			
79	Flywheel	PBE14416			
80	FW Gear	PBD1600			
81	Washer	PGWP26X095025			
82	C Spring	PBE13864			
83	Belt, Motor—Flywheel	PBE5019			
84	Belt	PBE5021			
85	Belt	PBE5020			
86	Motor Bracket	PBD1592			
87	Holder A Assembly	PBE01417			
88	Capstan Support	PBE14431			
89	Rec. Lever	PBD1593			
90	Button Holder	PBC1117			
91	Button Lever, Rec., Rew., Play, f.fwd, Stop, Pause	PBE14419			
92	Inter Plate	PBE14421			
93	Cam Plate	PBD1587			
94	C Spring	PBE6052			
95	Rec. Sub Plate	PBE14420			
96	Cassette Holder	PBE14432			
97	SW Plate	PBE14764			
98	Slide Plate	PBD1631			
99	T Spring	PBE6126			
111(MO1)	Motor	EG510ED-2B			
112	Dual Pulley, Motor	PBE14442			
113(RPH1)	Rec./Play Head	443-20-08			
114(EH1)	Erase Head	86M-01-03			
118(SW20)	Leaf Switch, Motor Power	MSW1234			
119(SW21,22)	Leaf Switch, Play, Motor Trigger	MSW0094			
120	Switch Lever	PBE14729			
121(SW23)	Leaf Switch, Pause	MSW0058			
122	Bushing, Motor	PBE13360			
123	Lug Terminal	PBE14710			
151	CS Ring	PGRS20P			
152	CS Ring	PGRS30P			
153	CS Ring	PGRS40P			
154	E-Stop Ring	PGRE20A			
155	E-Stop Ring	PGRE30A			
156	DT Screw	PGSD10A2605			
157	DT Screw	PGSD10A2610			
158	DT Screw	PGSD10A3005			
159	DT Screw	PGSD30A2606			
160	Screw, Motor	PBE13913			
161	F Tapping Screw	PGST15A2606			
162	F Tapping Screw	PGST15A3006			
163	Screw, Head	PGSN20A2011			
164	Tapping Screw	PGST10A2606			
165	DT Screw	PGSD20A2005			
166	Screw	PBE14823			
167	DT Screw	PGSD10A2608			

NOTE: **When spare parts are needed, type the quantity desired in the "ORDER Q'TY" column of the order form in this Service Manual and send copy.**

ALIGNMENT

Equipment Required:

1. AM RF Signal Generator
2. FM RF Signal Generator
3. AC V.T.V.M.
4. Frequency Counter
5. AM Test Loop
6. Oscilloscope
7. DC Voltmeter
8. Distortion Meter
9. FM Stereo Generator

General:

1. Signal input must be as low as possible to avoid overload and clipping.
2. Standard modulation is 400 Hz at 30% modulation (AM) and 1000 Hz at 75 kHz deviation (FM).

LW ALIGNMENT

Step	Set Signal Source To–	Set Radio Dial To–	Connect Output Indicator To–	Adjust–	Adjust For–
1	Press in LW push button to ON position.				
2	Connect AM test loop to AM RF signal generator leads. Place test loop enough to couple signal into the AM ferrite bar antenna (L6).				
3	455 kHz (AM modulation)	Tuning gang open	Connect AC V.T.V.M. and oscilloscope to TP1 and ground	T43,T44, T45	Maximum output on AC V.T.V.M. and at the same time clean wave on oscilloscope.
4	140 kHz (AM modulation)	Tuning gang closed	Connect AC V. T.V.M. and osilloscope to TP1 and ground	L8	Maximum output on AC V.T.V.M. and at the same time clean wave on oscilloscope.
5	300 kHz (AM modulation)	Tuning gang open	Same as above	TC5	Same as above
6	Repeat steps 4 and 5 for optimum sensitivity.				
7	160 kHz (AM modulation)	Tune for signal	Connect AC V.T.V.M. and oscilloscope to TP1 and ground	L5	Maximum output on AC V.T.V.M. and at the same time clean wave on oscilloscope.
8	270 kHz (AM modulation)	Tune for signal	Same as above	TC4	Same as above
9	Repeat steps 7 and 8 for optimum sensitivity.				

MW ALIGNMENT

Step	Set Signal Source To–	Set Radio Dial To–	Connect Output Indicator To–	Adjust–	Adjust For–
1	Press in MW push button to ON position.				
2	Connect AM test loop to AM RF signal generator leads. Place test loop enough to couple signal into the AM ferrite bar antenna (L5).				
3	525 kHz (AM modulation)	525 kHz	Connect AC V.T.V.M. and oscilloscope to TP1 and ground	L9	Maximum output on AC V.T.V.M. and at the same time clean wave on oscilloscope.
4	1600 kHz (AM modulation)	1600 kHz	Same as above	TC7	Same as above
5	Repeat steps 3 and 4 for optimum sensitivity.				
6	600 kHz (AM modulation)	Tune for signal	Connect AC V.T.V.M. and oscilloscope to TP1 and ground	L6	Maximum output on AC V.T.V.M. and at the same time clean wave on oscilloscope.
7	1400 kHz (AM modulation)	Tune for signal	Same as above	TC6	Same as above
8	Repeat steps 6 and 7 for optimum sensitivity.				

SW ALIGNMENT

Step	Set Signal Source To–	Set Radio Dial To–	Connect Output Indicator To–	Adjust–	Adjust For–
1	Press in SW push button to ON position.				
2	Connect AM RF signal generator to the AM external antenna terminals.				
3	5.6 MHz (AM modulation)	Tuning gang closed	Connect AC V.T.V.M. and oscilloscope to TP1 and ground	L10	Maximum output on AC V.T.V.M. and at the same time clean wave on oscilloscope.
4	18.5 MHz (AM modulation)	Tuning gang open	Same as above	TC9	Same as above
5	Repeat steps 3 and 4 for optimum sensitivity.				

Step	Set Signal Source To–	Set Radio Dial To–	Connect Output Indicator To–	Adjust–	Adjust For–
6	6 MHz (AM modualtion)	Tune for signal	Connect AC V.T.V.M. and oscilloscope to TP1 and ground	L7	Maximum output on AC V.T.V.M. and at the same time clean wave on oscilloscope.
7	16 MHz (AM modulation)	Tune for signal	Same as above	TC8	Same as above
8	Repeat steps 6 and 7 for optimum sensitivity.				

FM ALIGNMENT

Step	Set Signal Source To–	Set Radio Dial To–	Connect Output Indicator To–	Adjust–	Adjust For–
1	Set band selector switch to FM position.				
2			Oscilloscope to TP2 and ground	T41	Maximum noise
3			DC voltmeter to TP3 and TP4	T42	Zero volt reading on DC voltmeter
4	Repeat steps 2 and 3 for optimum sensitivity.				
5	Connect FM RF signal generator to the FM external antenna terminals.				
6	88 MHz (FM modulation)	88 MHz	AC V.T.V.M. and oscilloscope to TP2 and ground	L4	Maximum output on AC V.T.V.M. and at the same time clean wave on oscilloscope.
7	108 MHz (FM modulation)	108 MHz		TC3	
8	Repeat steps 6 and 7 for optimum sensitivity.				
9	90 MHz (FM modulation)	Tune for signal	AC V.T.V.M. and oscilloscope to TP2 and ground	L1,L2	Maximum output on AC V.T.V.M. and at the same time clean wave on oscilloscope.
10	106 MHz (FM modulation)			TC1,TC2	
11	Repeat steps 9 and 10 for optimum sensitivity.				

MULTIPLEX ALIGNMENT

Step	Stereo Generator		Set Radio Dial To–	Connect Output Indicator To–	Adjust–	Adjust For–
	Signal Source	Function				
1	Set band selector switch to STEREO position.					
2	Connect FM stereo generator to the FM external antenna terminals.					
3	98 MHz 1 mV (60 dB) (Unmodulation)	MONO	Tune for signal	Frequency counter to TP7 and TP8	VR72	19 kHz
4	98 MHz 1 mV (60 dB) (FM modulation)	LEFT		AC V.T.V.M. and oscilloscope to TP10 and TP11	VR71	Minimum output
5		RIGHT		AC V.T.V.M. and oscilloscope to TP9 and TP11		
6	Repeat steps 4 and 5 to obrain same level at left and right channels.					

OUTPUT LEVEL ADJUSTMENT

Equipment Required: FM RF Signal Generator and AC V.T.V.M.

1. Connect dual channel AC V.T.V.M. to both left and right speaker jacks (J5 and J6).
2. Connect FM RF signal generator to FM antenna terminals.
   Adjust the input level becomes 98 MHz 1 mV.
3. Set FM switch to ON position.
4. Set dial to tune for signal.
5. Adjust VR73 for equal reading on AC V.T.V.M. for both left and right channels.

FM MUTE ADJUSTMENT

Equipment Required: FM RF Signal Generator and DC Voltmeter

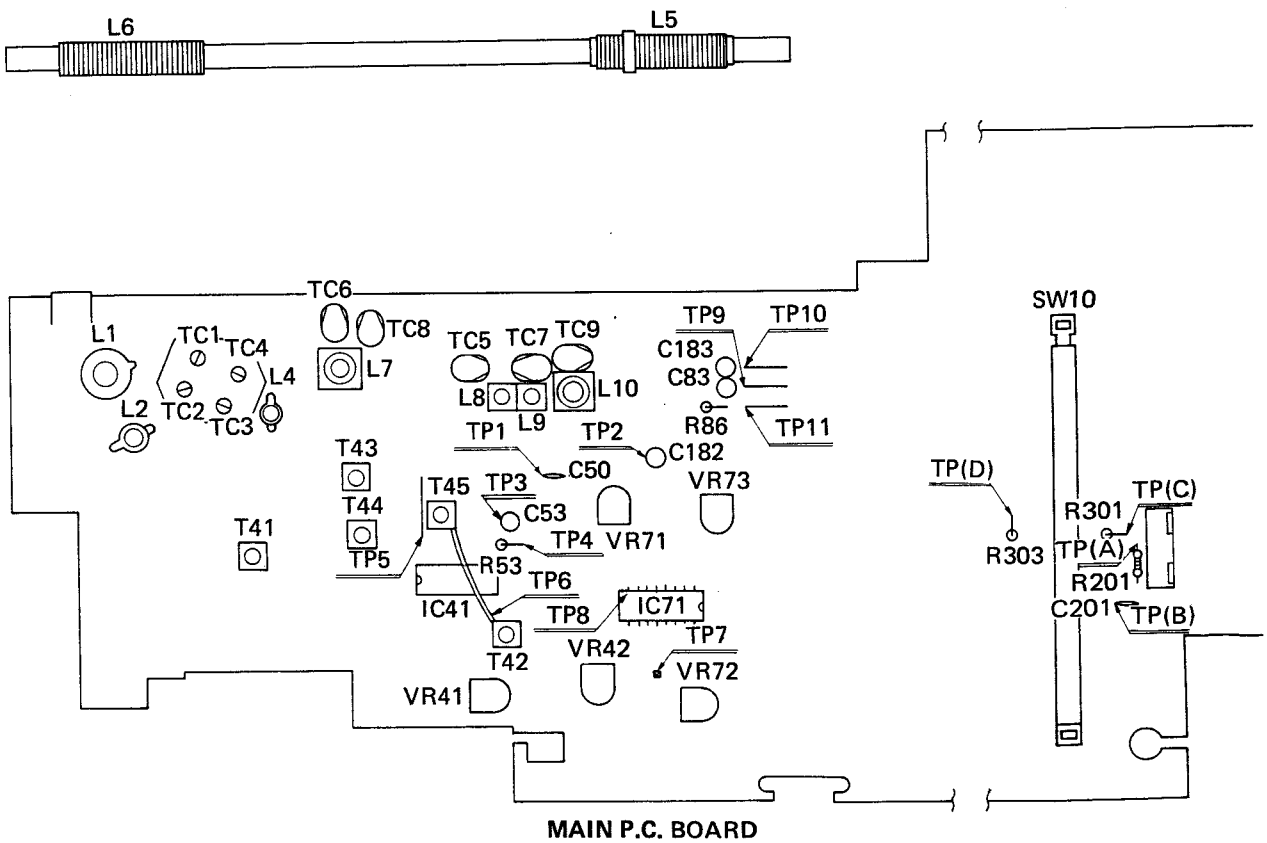
1. Connect DC voltmeter to TP5 and TP6.
2. Connect FM RF signal generator to FM antenna terminals.
   Apply 98 MHz 60 dB input and read the reading of DC voltmeter.
3. Adjust input level so that the reading of DC voltmeter becomes less 0.5 V than above reading.
4. Adjust VR41 so that the signal disappears in the muting-on mode.
5. Confirm signal appears when increasing input 1 or 2 dB.

TUNING DISPLAY LEVEL ADJUSTMENT

Equipment Required: FM RF Signal Generator and DC Voltmeter

1. Connect DC voltmeter to TP5 and TP6.
2. Connect FM RF signal generator to FM antenna terminals.
   Apply 98 MHz 60 dB input and read the reading of DC voltmeter.
3. Adjust input level so that the reading of DC voltmeter becomes less 0.7 V than above reading.
4. Adjust VR42 so that the tuning indicator light.

ALIGNMENT POINTS



CASSETTE TAPE RECORDER ADJUSTMENT

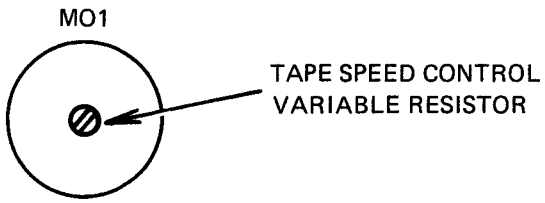
General

1. Tape Selector is NORMAL position.
2. Dolby NR Switch is OFF position.
3. Volume Control is at maximum.
4. Balance Control is at mechanical center.
5. Function Switch is TAPE position.
6. Rec. Level Control is at maximum.
7. Aux./Phono Switch is Aux. position.

TAPE SPEED ADJUSTMENT

Equipment Required: Frequency Counter and 3 kHz Test Tape (TEAC MTT-111D)

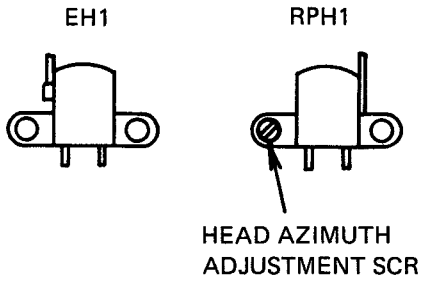
1. Connect frequency counter to either left or right tape out (J3 or J4).
2. Play back the test tape and adjust the variable resistor built in the DC motor for 3 kHz (±2%). In this adjustment, use the central portion of the test tape.



HEAD AZIMUTH ADJUSTMENT

Equipment Required: Dual Channel AC V.T.V.M. and 10 kHz Test Tape (TEAC MTT-114)

1. Connect dual channel AC V.T.V.M. to both left and right tape out (J3 and J4).
2. Play back the "A" side of the test tape and adjust Head Azimuth Adjustment Screw so that the output indicated by the AC V.T.V.M. will be maximum and the difference of output between left and right becomes less than 2 dB.
3. Play back the "B" side of the test tape and adjust Head Azimuth Adjustment Screw for maximum output.
4. Repeat steps 2 and 3, and adjust Head Azimuth Adjustment Screw until the difference of outputs from side "A" and side "B" becomes less than 2 dB.



PLAYBACK LEVEL ADJUSTMENT

Equipment Required: Dual Channel AC V.T.V.M. and Test Tape (TEAC MTT-150)

1. Connect dual channel AC V.T.V.M. to both left and right tape out (J3 and J4).
2. Play back the test tape and adjust VR201 (left) and VR301 (right) so that the output will be 0.58V.

RECORD BIAS FREQUENCY ADJUSTMENT

Equipment Required: Frequency Counter

1. Set the tape selector switch to normal position.
2. Place the RIS switch to 1 position.
3. Connect frequency counter to TP(A) and TP(B).
4. Set the unit to recording mode.
5. Adjust OS401 so that the frequency beocmes 87.0 kHz.
6. Place the RIS switch to 2 position.
7. Adjust OS401 so that the frequency becomes 83.0 kHz.

RECORD BIAS LEVEL ADJUSTMENT

Equipment Required: Dual channel AC V.T.V.M.

1. Set the tape selector switch to normal position.
2. Connect dual channel AC V.T.V.M. to TP(A), TP(B), TP(C) and TP(D).
3. Set the unit to recording mode.
4. Adjust OS401 so that the AC V.T.V.M. reads 25 mV.

RECORD LEVEL ADJUSTMENT

Equipment Required: Audio Signal Generator and Dual Channel AC V.T.V.M.

1. Set the tape selector switch to normal position.
2. Connect the audio signal generator to aux. input jacks (J1 and J2), and apply 245 mV, 400 Hz signal.
3. Connect dual channel AC V.T.V.M. to both left and right tape out (J3 and J4).
4. Set the unit in recording mode.
5. Adjust VR241, 341 so that the AC V.T.V.M. reads 245 mV.

RECORD/PLAYBACK FREQUENCY CHARACTERISTIC ADJUSTMENT

Equipment Required: Audio Signal Generator, Dual Channel AC V.T.V.M. and Test Tape (TEAC MTT-502, BASF C-401R, TDK M-1)

1. Connect audio signal generator to aux. input jacks (J1 and J2).
2. Connect dual channel AC V.T.V.M. to both left and right tape out (J3 and J4).
3. 1) Set the tape selector switch to normal position.
   2) Record the signal (32.6 mV) of audio signal generator to test tape (TEAC MTT-502) varying it from 100 Hz to 12.5 kHz.
   3) Adjust L242 (left) and L342 (right) so that the playback frequency response is within the range as shown in Fig 1 when the unit is in playback mode.
4. 1) Set the tape selector switch to CrO2 position.
   2) Record the signal (32.6 mV) of audio signal generator to test tape (BASF C-401R) varying it from 100 Hz to 12.5 kHz.
   3) Adjust L242 (left) and L342 (right) so that the playback frequency response is within the range as shown in Fig 1 when the unit is in playback mode.
5. 1) Set the tape selector switch to metal position.
   2) Record the signal (32.6 mV) of audio signal generator to test tape (TDK M-1) varying it from 100 Hz to 12.5 kHz.
   3) Adjust L242 (left) and L342 (right) so that the playback frequency response is within the range as shown in Fig 1 when the unit is in playback mode.

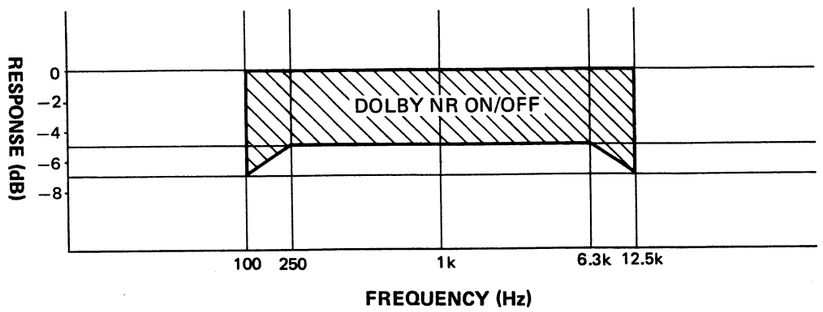
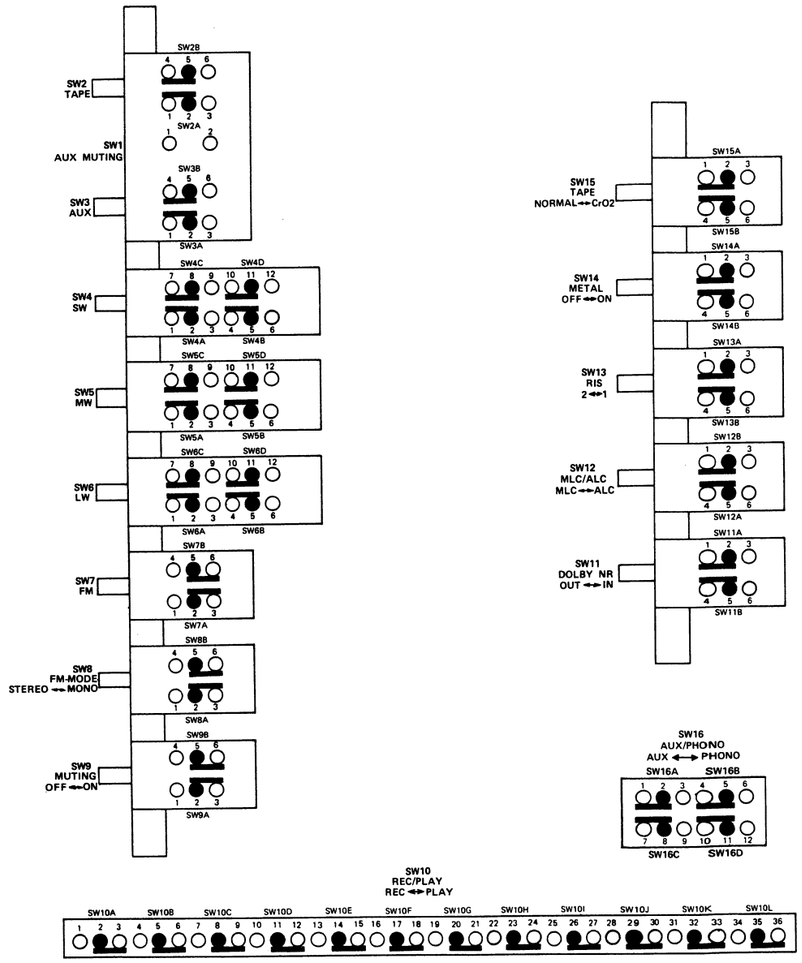


Fig.1

Noise Reduction System manufactured under license from Dolby Laboratories Licensing Corporation.
"Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

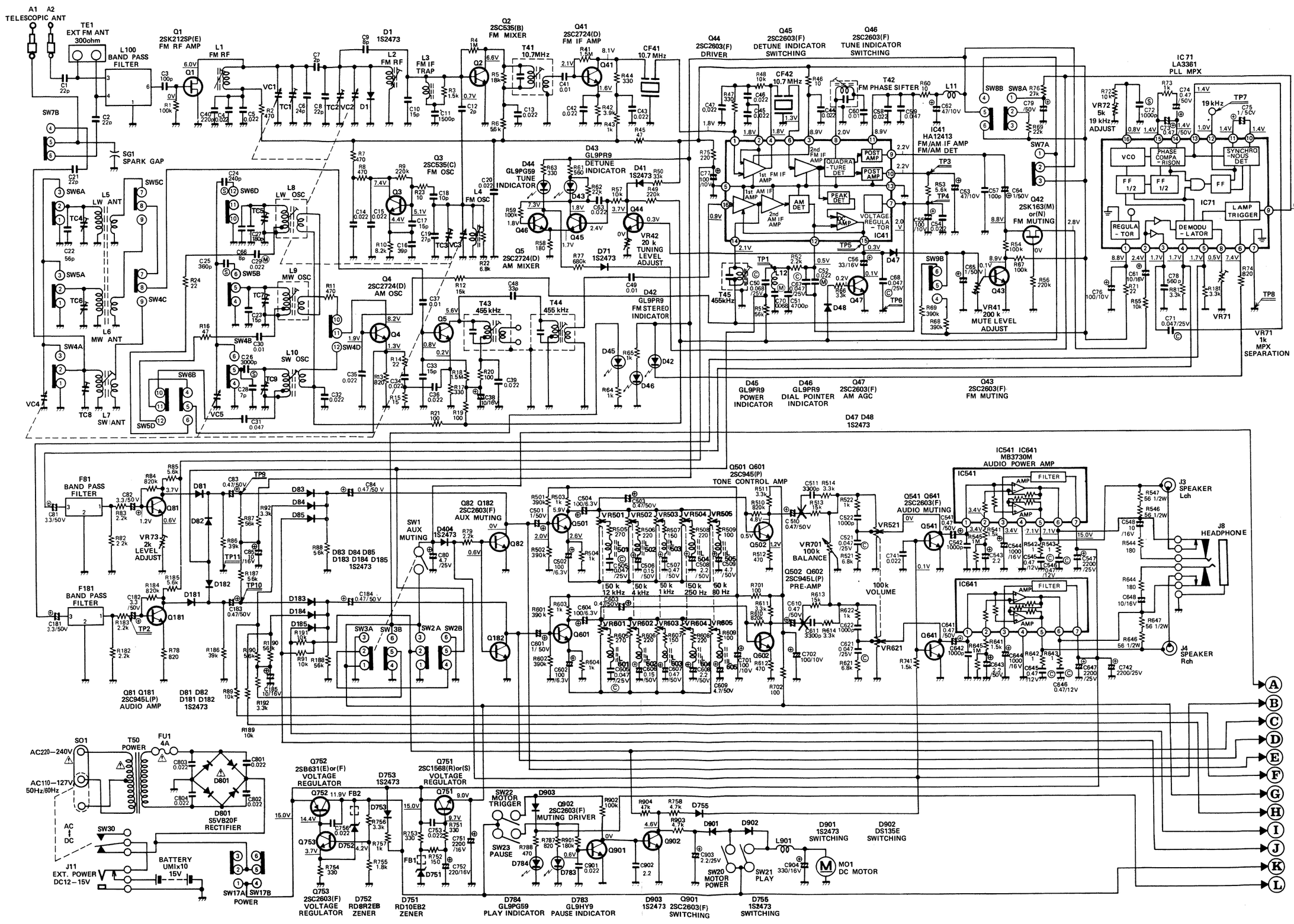
SWITCH CONNECTION VIEW (BOTTOM VIEW)

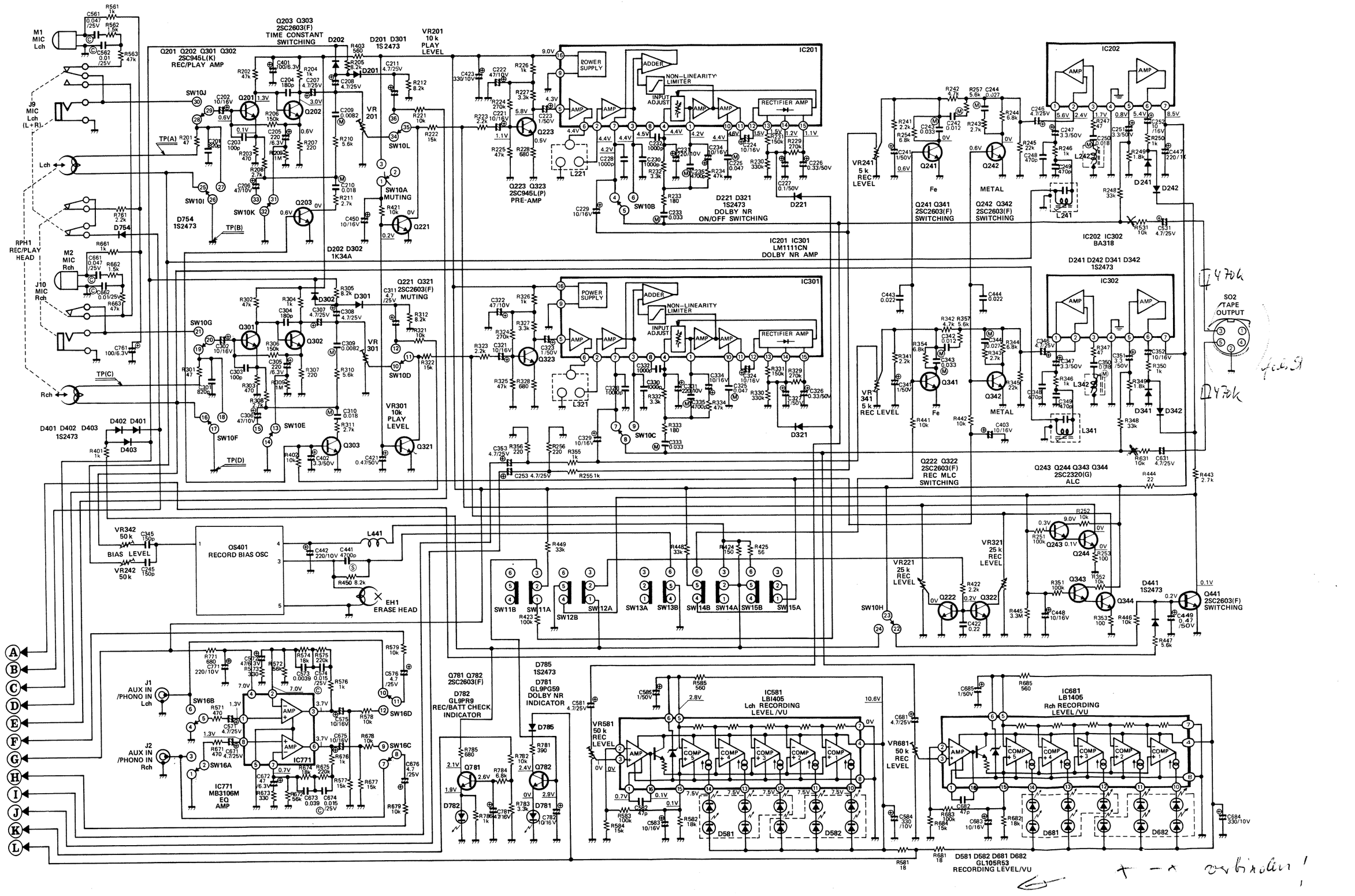


SCHEMATIC DIAGRAM NOTES

1. All resistors are carbon unless otherwise noted.
   (C) : Cement Resistor
   (F) : Fuse Resistor
   (M) : Metal Resistor
   (S) : Solid Resistor
2. All resistance values are in Ω.
   kΩ=1000Ω, MΩ=1000kΩ
3. The wattage of resistor is 1/4W unless otherwise noted.
4. The marks of capacitors are as follows:
   : Ceramic Capacitor
   : Electrolytic Capacitor
   (A) : Al. Solid Capacitor
   (C) : Semiconductor Capacitor
   (E) : Metalized Polypropylene Capacitor
   (I) : Mica Capacitor
   (M) : Mylar Capacitor
   (P) : Polypropylene Capacitor
   (S) : Stylor Capacitor
   (T) : Tantalum Electrolytic Capacitor
5. All capacitance values are in μF unless otherwise noted.
   pF=μμF
6. The DC work voltage of capacitor is 50V unless otherwise noted.
7. Voltages reading from common ground are measured with V.T.V.M. under no signal conditions.
8. This is a standard schematic diagram. Some set may be modified slightly for better performance.

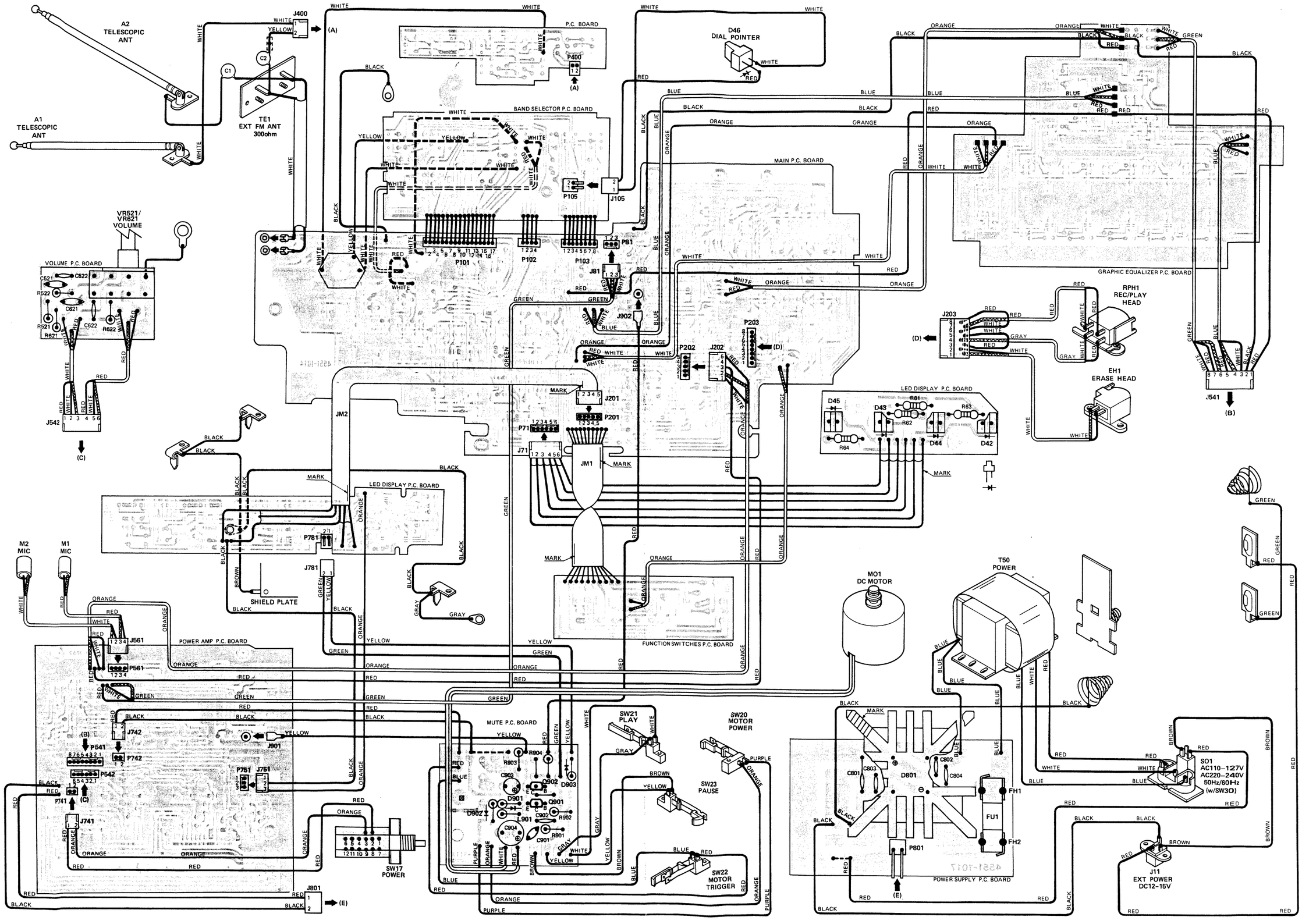
SCHEMATIC DIAGRAM



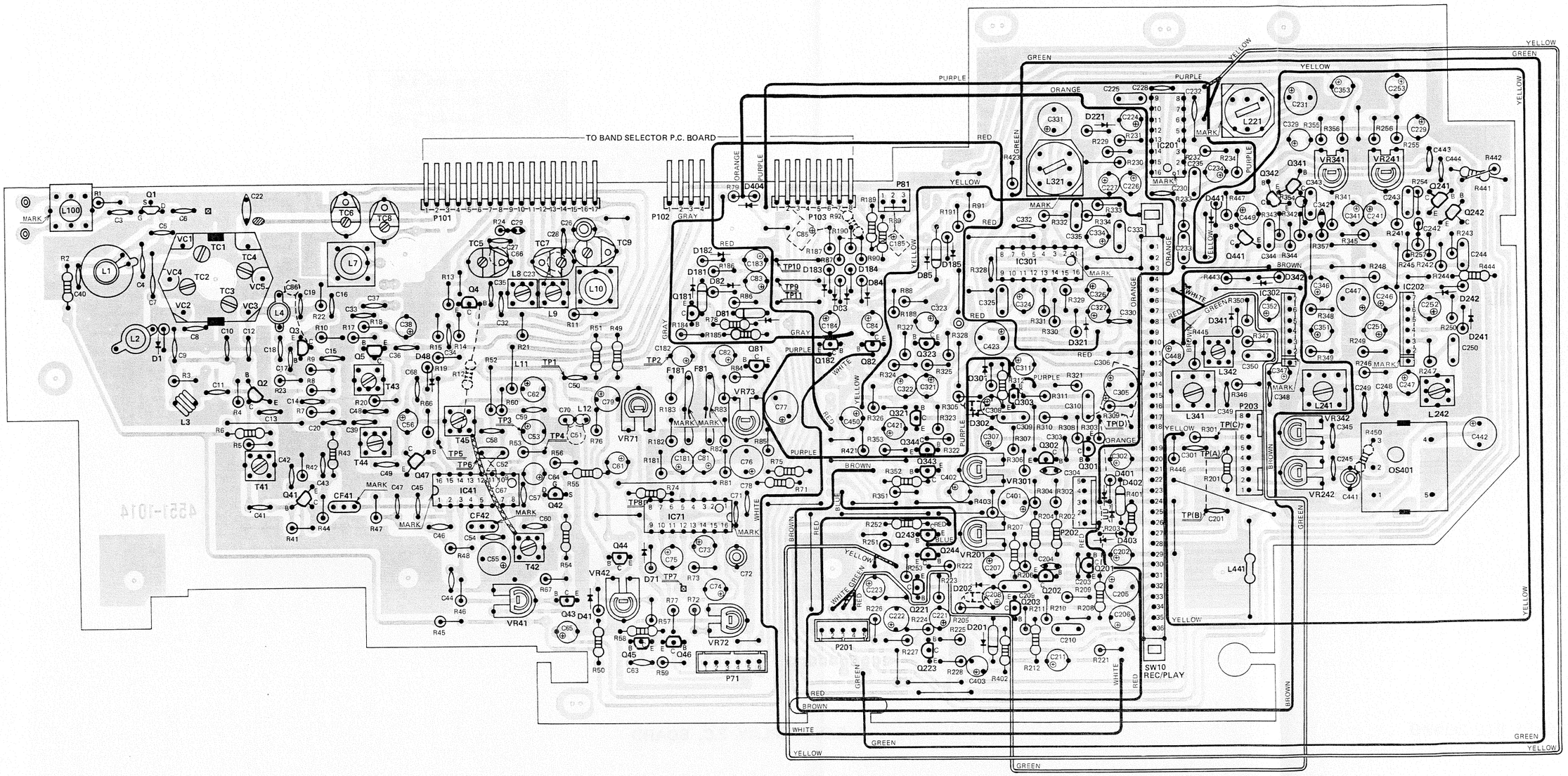


SAFETY-REQUIREMENTS COMPONENTS IN ACCORDANCE WITH PRESENT SAFETY REGULATIONS, THESE COMPONENTS MUST ONLY BE REPLACED BY ORIGINAL PARTS.

WIRING DIAGRAM

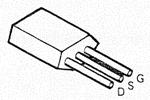


MAIN P.C. BOARD

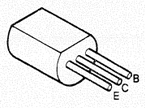


TRANSISTOR VIEW

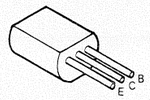
Q1



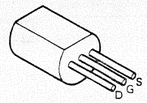
Q 2,3,81,181,201,
202,223,243,244,
301,302,323,343,
344,501,502,601,602



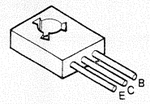
Q4,5,41,43,44,45,
46,47,82,182,203,
221,222,241,242,
303,321,322,341,
342,441,541,641,
753,781,782,901,
902



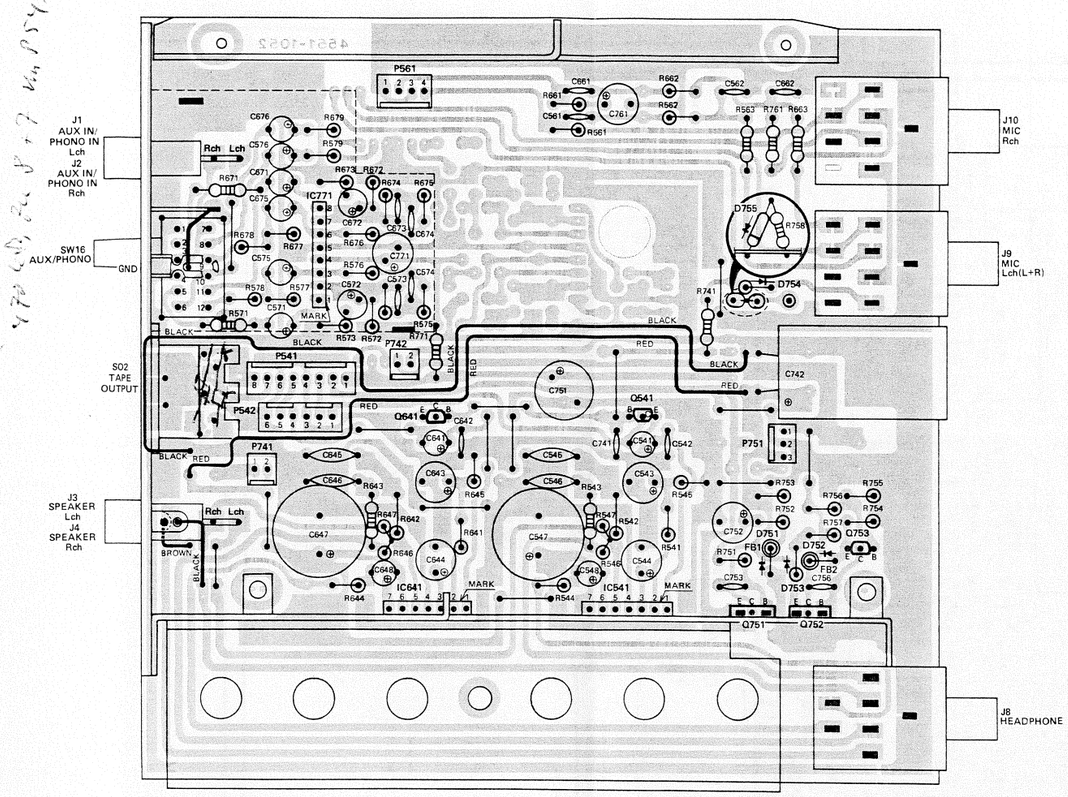
Q42



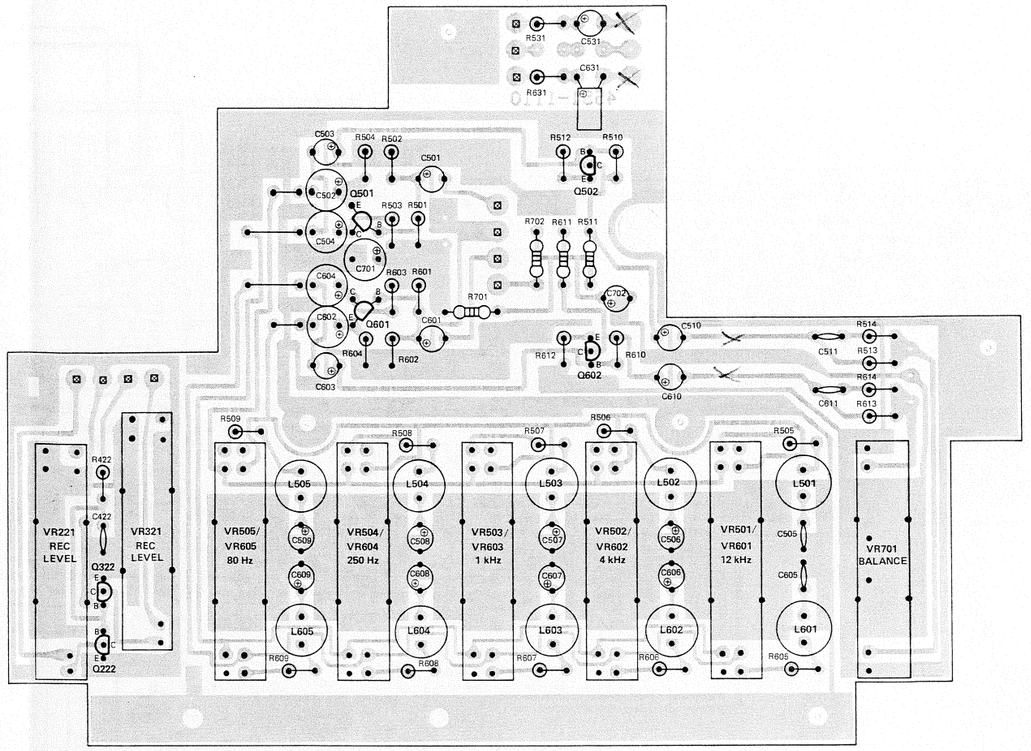
Q751,752



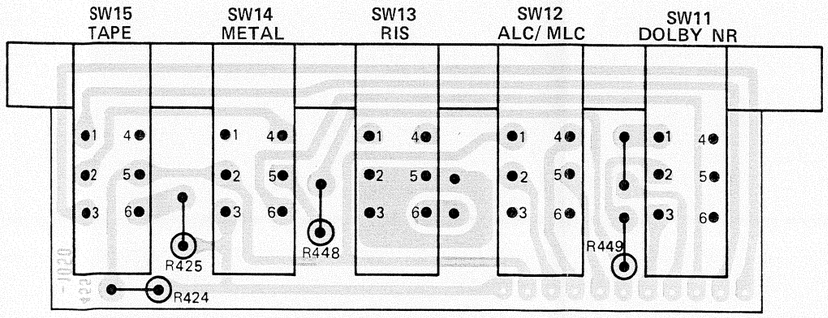
POWER AMP. P.C. BOARD



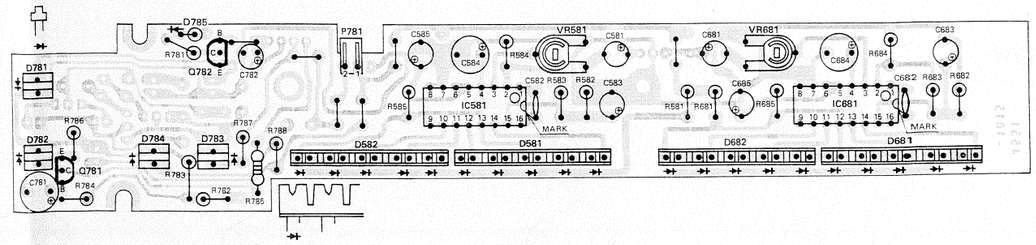
GRAPHIC EQUALIZER P.C. BOARD



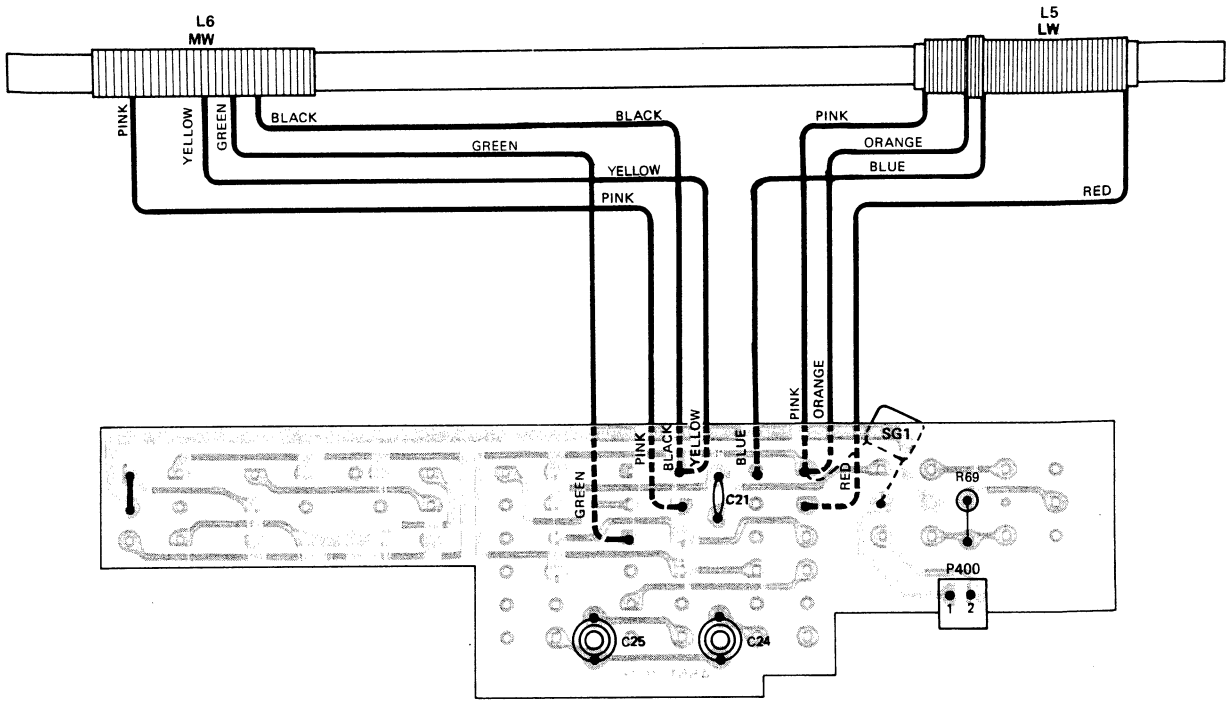
FUNCTION SWITCHES P.C. BOARD

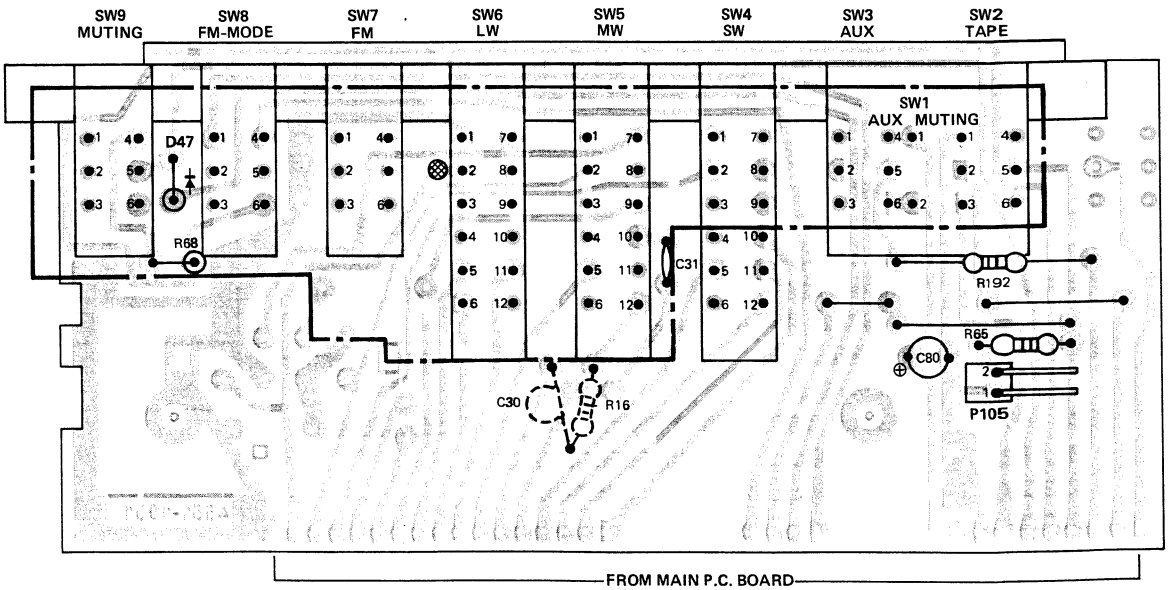


L.E.D. DISPLAY P.C. BOARD



BAND SELECTOR P.C. BOARD





ELECTRICAL PARTS LIST

[MODEL SR8000L]

SER. NO.	REF. NO.	DESCRIPTION	PART NO.	ORDER Q'TY		
		RESISTORS				
217	VR41	Variable Resistor, 200 k ohm, Mute Level Adjust	5101-20401917			
215	VR42	Variable Resistor, 20 k ohm, Tuning Level Adjust	5101-20301917			
211	VR71	Variable Resistor, 1 k ohm, MPX Separetion	5101-10201917			
213	VR72,241, 341	Variable Resistor, 5 k ohm, 19 kHz Adjust, Rec. Level	5101-50201917			
212	VR73	Variable Resistor, 2 k ohm, Level Adjust	5101-20201917			
214	VR201,301	Variable Resistor, 10 k ohm, Play Level	5101-10301917			
112	VR221,321	Variable Resistor, 25 k ohm, Rec. Level	5222-2530120			
216	VR242,342	Variable Resistor, 50 k ohm, Bias Level	5101-50301917			
114	VR501/601, 502/602, 503/603, 504/604, 505/605	Variable Resistor, 50 k ohm, Graphic Equalizer (12 kHz, 4 kHz, 1 kHz, 250 Hz, 80 Hz)	5222-5030119			
174	VR521/621	Variable Resistor, 100 k ohm, Volume	5113-10403123			
424	VR581,681	Variable Resistor, 50 k ohm, Rec. Level	5101-503083H			
113	VR701	Variable Resistor, 100 k ohm, Balance	5222-1040220			
		CAPACITORS				
144	VC1/2/3/4/5	Variable Capacitor (w/Trimmers TC1/2/3/4)	5325-013			
147	TC5,6,7	Trimmer Capacitor	5371-27			
146	TC8,9	Trimmer Capacitor	5371-26			
		SEMICONDUCTORS				
112	IC41	Integrated Circuit, FM/AM IF Amp., FM/AM Det.	5652-HA12413			
113	IC71	Integrated Circuit, PLL MPX	5652-LA3361			
114	IC201,301	Integrated Circuit, Dolby NR Amp.	5652-LM1111CN			
115	IC202,302	Integrated Circuit	5652-BA318			
104	IC541,641	Integrated Circuit, Audio Power Amp.	5652-MB3730M			
412	IC581,681	Integrated Circuit, Recording Level/VU	5652-LB1405			
105	IC771	Integrated Circuit, EQ Amp.	5652-MB3106M			
118	Q1	Field Effect Transistor (2SK212SP(E)), FM RF Amp.	5616-212SP(E)			
122	Q2	Transistor (2SC535(B)), FM Mixer	5613-535(B)			
123	Q3	Transistor (2SC535(C)), FM Osc.	5613-535(C)			
130	Q4,5,41	Transistor (2SC2724(D)), AM Osc., AM Mixer, FM IF Amp.	5613-2724(D)			
119	Q42	Field Effect Transistor (2SK163(M)or(N)), FM Muting	5616-163(M)or(N)			
546	Q43–47, 82,182, 203,221, 222,241, 242,303, 321,322, 341,342, 441,541, 641,753, 781,782, 901,902	Transistor (2SC2603(F)), FM Muting, Driver, Detune Indicator Switching, Tune Indicator Switching, AM AGC, Aux. Muting, Time Constant Switching, Muting, Rec. MLC Switching, Switching, Audio Muting, Voltage Regulator, Switching, Muting Driver	5613-2603(F)			

SER. NO.	REF. NO.	DESCRIPTION	PART NO.	ORDER Q'TY		
126	Q81,181, 223,323, 502,602	Transistor (2SC945L(P)), Audio Amp., Pre-Amp.	5613-945L(P)			
124	Q201,202, 301,302	Transistor (2SC945L(K)), Rec./Play Amp.	5613-945L(K)			
129	Q243,244, 343,344	Transistor (2SC2320(G)), ALC	5613-2320(G)			
107	Q501,601	Transistor (2SC945(P)), Tone Control Amp.	5613-945(P)			
107	Q751	Transistor (2SC1568(R)or(S)), Voltage Regulator	5613-1568(R)or(S)			
109	Q752	Transistor (2SB631(E)or(F)), Voltage Regulator	5612-631(E)or(F)			
547	D1,41,47, 48,71, 81–85, 181–185, 201,221, 241,242, 301,321, 341,342, 401–404, 441,753, 754,755, 785,901, 903	Diode, Dolby NR ON/OFF Switching, Switching	5631-1S2473			
514	D42,43,45, 46,782	Light Emitting Diode, FM Stereo Indicator, Detune Indicator, Power Indicator, Dial Pointer Indicator, Rec./Batt. Check Indicator	5673-GL9PR9			
419	D44,781, 784	Light Emitting Diode, Tune Indicator, Dolby NR Indicator, Play Indicator	5637-GL9PG59			
137	D202,302	Diode	5631-1K34A			
418	D581,582, 681,682	Light Emitting Diode, Recording Level/VU	5637-GL105R53			
110	D751	Zener Diode	5635-RD10EB2			
111	D752	Zener Diode	5635-RD8R2EB			
421	D783	Light Emitting Diode, Pause Indicator	5637-GL9HY9			
⚠ 558	D801	Bridge Silicon Diode, Rectifier	5685-S5VB20F			
543	D902	Diode, Switching	5632-DS135E			

COILS AND TRANSFORMERS

159	L1	Coil, FM RF	5995-001059			
158	L2	Coil, FM RF	5995-02F058			
161	L3	Coil, FM IF Trap	5991-7065			
152	L4	Coil, FM Osc.	5942-03A21			
164B	L5/6	Ferrite Bar Antenna, LW/MW	5913-96			
154B	L7	Coil, SW Antenna	5943-01317			
171B	L8	Coil, LW Osc.	5922-01418			
170	L9	Coil, MW Osc.	5922-0288			
173B	L10	Coil, SW Osc.	5923-01218			
157	L11	Coil	5995-220254			
024B	L12	Coil	5995-0066			
155	L100	Coil, Band Pass Filter	5943-00130			
178	L221,321	LC Components	5214-24			
177	L241,341	LC Components	5214-23			
175	L242,342	Coil	5932-0037			
160	L441	Coil	5995-101254			

SER. NO.	REF. NO.	DESCRIPTION	PART NO.	ORDER Q'TY		
117	L501,601	Coil	5995-392256			
118	L502,602	Coil	5995-123256			
119	L503,603	Coil	5995-473256			
121	L504,604	Coil	5995-184257			
122	L505,605	Coil	5995-824257			
555	L901	Coil	5995-100225			
186	T41	Transformer, FM IF (10.7 MHz)	5562-0028			
187	T42	Transformer, FM Phase Sifter	5562-0068			
183	T43,44	Transformer, AM IF (455 kHz)	5552-01010			
184	T45	Transformer, AM IF (455 kHz)	5552-01110			
⚠ 501	T50	Transformer, Power	5584-001350			

MISCELLANEOUS

180	F81,181	CR Components, Band Pass Filter	5211-9			
189	CF41,42	Ceramic Filter, FM IF (10.7 MHz)	5671-4110Z			
138	SW1/2/3/4/5 /6/7/8/9	Push Switch, Aux. Muting, Tape, Aux, SW, MW, LW, FM, FM-Mode, Muting	4431-0823013			
141	SW10	Slide Switch, Rec./Play	4421-122018			
139	SW11/12/13 /14/15	Push Switch, Dolby NR, ALC/MLC, RIS, Metal, Tape	4431-05100150			
122	SW16	Slide Switch, Aux./Phono	4421-0420120			
461	SW17	Push Switch, Power	4431-A04015			
118	SW20	Leaf Switch, Motor Power	MSW1234			
119	SW21,22	Leaf Switch, Play, Motor Trigger	MSW0094			
121	SW23	Leaf Switch, Pause	MSW0058			
⚠ 503	SO1	Ext. AC Socket (w/SW30)	4474-91			
021B	SO2	DIN Jack, Tape Out	4474-110			
520	M1,2	Electret Microphone	5896-E015			
120B	J1/2/3/4	5-Pin Jack, Aux. In/Phono In, Speaker	4455-017			
117	J8,10	Jack, Headphone, Mic., Rch.	4451-00115			
116	J9	Jack, Mic., Lch. (L+R)	4451-00114			
504	J11	Jack, Ext. Power	4451-0092			
199	J71	Connector with Lead Wire (6-pin, Female)	4163-00270			
132	J81	Connector with Lead Wire (3-pin, Female)	4163-02765			
516	J105	Connector with Lead Wire (2-pin, Female)	4163-00171			
131	J201	Connector with Lead Wire (5-pin, Female)	4163-02665			
458	J202	Connector with Lead Wire (5-pin, Female)	4163-00170			
524	J203	Connector (8-pin, Female)	4443-087125			
508	J400	Connector with Lead Wire (2-pin, Female)	4163-00169			
127	J541	Connector with Lead Wire (8-pin, Female)	4163-02865			
176	J542	Connector with Lead Wire (6-pin, Female)	4163-02965			
522	J561	Connector with Lead Wire (4-pin, Female)	4163-03065			
464	J741	Connector with Lead Wire (2-pin, Female)	4163-02165			
526	J742	Connector with Lead Wire (2-pin, Female)	4163-02365			
459	J751	Connector with Lead Wire (3-pin, Female)	4163-03265			
527	J781	Connector with Lead Wire (2-pin, Female)	4163-00269			
133	J801	Connector with Lead Wire (2-pin, Female)	4163-03165			
528	J901	Connector with Lead Wire (1-pin, Female)	4163-00163			
529	J902	Connector with Lead Wire (1-pin, Female)	4163-01763			
⚠ 125	P1	AC Line Cord (w/Plug)	4161-0162			
⚠ 125B	P1	AC Line Cord (w/Plug) [United Kingdom Version only]	4161-0216			
205	P71	Connector (6-pin, Male)	4443-060177			
126	P81,751	Connector (3-pin, Male)	4443-037114			
197	P101	Connector (17-pin, Male)	4443-17418			
195	P102	Connector (4-pin, Male)	4443-04418			

[MODEL SR8000L]

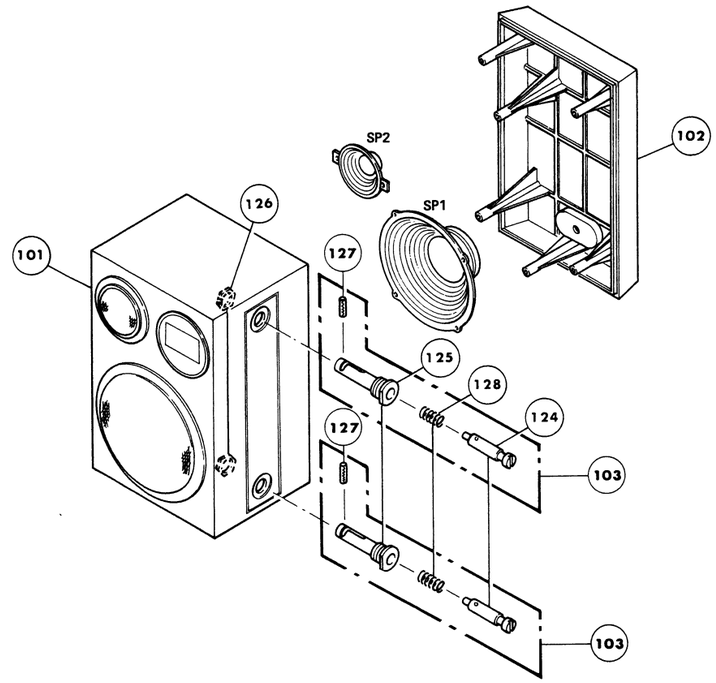
SER. NO.	REF. NO.	DESCRIPTION	PART NO.	ORDER Q'TY		
196	P103	Connector (8-pin, Male)	4443-08418			
207	P105	Connector (2-pin, Male)	4443-020180			
200	P201	Connector (5-pin, Male)	4443-057114			
204	P202	Connector (5-pin, Male)	4443-050177			
129	P203,541	Connector (8-pin, Male)	4443-087114			
203	P400,781	Connector (2-pin, Male)	4443-027152			
128	P542	Connector (6-pin, Male)	4443-067114			
127	P561	Connector (4-pin, Male)	4443-047114			
125	P741,742	Connector (2-pin, Male)	4443-027114			
600	P801	Connector (2-pin, Male)	4443-024116			
209	JM1	Jamper Lead (10-wire)	4242-100022			
541	FH1,2	Fuse Holder	4472-414			
⚠ 542	FU1	Fuse, 4A	5732-40212			
111	MO1	DC Motor	EG510ED-2B			
113	RPH1	Rec./Play Head	443-20-08			
114	EH1	Erase Head	86M-01-03			
182	A1,2	Telescopic Antenna	1392-0600131			
114	FB1,2	Ferrite Bead	5597-3			
506	TE1	Terminal, Ext. FM Antenna	4214-60			
150	OS401	Complex, Record Bias Osc.	6171-0405			
219	SG1	Spark Gap	5481-1			
⚠ 021B		AC Adaptor [Panama Version only]	4474-110			
513		Speaker Cord, Lch.	4161-02138			
513		Speaker Cord, Rch.	4161-01138			

⚠ **SAFETY-REQUIREMENTS COMPONENTS IN ACCORDANCE WITH PRESENT SAFETY REGULATIONS, THESE COMPONENTS MUST ONLY BE REPLACED BY ORIGINAL PARTS.**

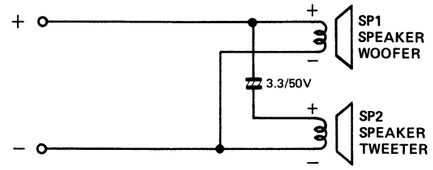
NOTE: When spare parts are needed, type the quantity desired in the "ORDER Q'TY" column of the order form in this Service Manual and send copy.

SPEAKER SYSTEM

EXPLODED VIEW



SCHEMATIC DIAGRAM



PARTS LIST

[MODEL SR8000L]

SER. NO.	REF. NO.	DESCRIPTION	PART NO.	ORDER Q'TY		
	101	Speaker Cabinet Front Assembly, Left	A412-S8000SPL			
	101	Speaker Cabinet Front Assembly, Right	A412-S8000SPR			
	102	Speaker Cabinet Back Assembly, Left & Right	A422-S8000SP			
	103	Holder Assembly	B240-S8000SP			
124	124	Shaft	2601-454			
125	125	Holder	2240-288			
126	126	Special Nut	2440-46			
127	127	Spring Pin	2425-1408712			
128	128	Spring	2651-2101414			
501	SP1	Dynamic Speaker, 4 ohm, 160 mm (Woofer)	5811-C1600123			
502	SP2	Dynamic Speaker, 2.5 ohm, 50 mm (Tweeter)	5811-C0500122			

NOTE: When spare parts are needed, type the quantity desired in the "ORDER Q'TY" column of the order form in this Service Manual and send copy.

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